



Supplemental Resource Guide

Heavy Equipment Operator – Tractor Loader Backhoe (TLB)

Heavy Equipment Operator – Excavator

Heavy Equipment Operator – Dozer

636A, 636B and 636C

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Apprenticeship Pathway to a Certificate of Qualification

Phase 1: Registration

Submit Application for Apprenticeship Training through the on-line portal or to local Service Delivery Office

For on-line portal, please follow instructions for registration. You will need to create a *My Ontario* account to access online services.

Training agreement signed and registered by both apprentice and sponsor

Access your Apprenticeship Training Standard Logbook**
skilledtradesontario.ca/about-trades/trades-information

** This is the official record of your training progress. You are responsible for keeping it up-to-date.

Complete on-the-job training

Demonstrate and receive sign-off on the competencies/skills in your Apprenticeship Training Standard Logbook

Complete in-school training

Attend and complete the in-class training set out in the Curriculum Training Standard

Apprentices eligible to apply for apprenticeship incentive grants (Red Seal trades) and loans.

Review and finalize your logbook with your sponsor

Submit proof of apprenticeship completion
via email, in-person or digital portal

Your Apprenticeship Training Standard Logbook details completion requirements. Submit the following:

- completed Apprenticeship Training Standard Logbook with signatures
- proof of hours

Certificate of Apprenticeship is issued

Trades without examination

CofA is the final step of the program

Trades with examination (compulsory and non-compulsory trades)*

Provisional Certificate of Qualification issued for a 12 month term

To prepare for the CofQ examination download the Provincial and/or Red Seal Exam preparation guides.

Make payment for your Certificate of Qualification examination

Call to make a payment (647-847-3000 or 1-855-299-0028)

Schedule a date to write your Examination

To schedule your examination, contact your local Service Delivery Office.

Pass Certificate of Qualification examination

Apprentices eligible to apply for Apprenticeship Completion Grant (Red Seal trades) or Apprentice Completion Bonus (non-Red Seal)

Certificate of Qualification is issued

Upon completion, Sponsors may be eligible for Apprenticeship grants, incentives, bonuses or tax credits

Phase 2: Apprenticeship

Phase 3: Certification

* For a list of trades subject to a certification examination, visit: skilledtradesontario.ca

Program Summary of Reportable Subjects and Recommended Hours
Heavy Equipment Operator Trades

*These reportable subjects are NOT common core

Number	Reportable Subjects	Hours Total	Hours Theory	Hours Practical
3270	Trade Documents	16	8	8
3271	Safety and trade practices	17	14	3
3272	Communications	4	4	0
3273	Introduction to the equipment	9	7	2
3274	Troubleshooting and repairs	8	6	2
3282 - TLB	Maintenance and pre-operations*	4	2	2
3285 - Excavator				
3288 - Dozer				
3283 - TLB	Operations*	162	6	156
3286 - Excavator				
3289 - Dozer				
3275	Post-operations	22	2	20
3284 - TLB	Attachments and implements*	5	2	3
3287 - Excavator				
3290 - Dozer				
3276	Environmental protection	4	4	0
3277	Soil fundamentals	8	4	4
3278	Surveys and grades	8	5	3
3279	Hoisting and rigging	16	6	10
3280	Industry sectors (specialized work)	8	7	1
3281	Transportation	9	3	6
	Total	300	80	220

Program Summary - Heavy Equipment Operator Trades

Pre-requisites and Co-requisites

Reportable Subject	Pre-requisite	Co-requisite
Trade Documents	n/a	n/a
Safety and trade practices	n/a	n/a
Communications	n/a	n/a
Introduction to the equipment	n/a	n/a
Troubleshooting and repairs	Introduction to the Equipment	n/a
Maintenance and Pre-Operations – TLB	Introduction to the Equipment	n/a
Maintenance and Pre-Operations – Excavator		
Maintenance and Pre-Operations - Dozer		
Operations - TLB	Introduction to the Equipment	n/a
Operations - Excavator		
Operations - Dozer		
Post-operations	Introduction to the Equipment Maintenance and Pre-Operations (relevant trade)	n/a
Attachments and Implements - TLB	Introduction to the Equipment	n/a
Attachments and Implements - TLB		
Attachments and Implements - TLB		
Environmental protection	n/a	Soil Fundamentals
Soil fundamentals	n/a	Environmental Protection
Surveys and grades	n/a	n/a
Hoisting and rigging	Introduction to the Equipment	n/a
Industry sectors (specialized work)	Introduction to the Equipment Attachments and Implements (relevant trade)	n/a
Transportation	Introduction to the Equipment	n/a

Equipment, Materials and Site Recommendations for Training Delivery Agents

The purpose of the Curriculum Standard is to establish the highest standard for learning and expectations for knowledge transfer for apprentices.

As a result, in order to meet the in school learning outcomes and objectives set out in this Curriculum Standard for Heavy Equipment Operator – Excavator, Heavy Equipment Operator – Dozer and Heavy Equipment Operator – Tractor Loader Backhoe, Skilled Trades Ontario, in consultation with the curriculum steering committee and working group, recommends that designated Training Delivery Agents (TDAs) have the following tools, materials, and/or equipment for use during the implementation of this curriculum.

This list provides recommendations for the delivery of all Reportable Subjects.

Category	Recommended Equipment, Materials and Site Requirements		
	<p>For the 3 HEO trades, seat time is critical to ensure knowledge and skill transfer. As a result, the ratio of equipment to student for the 3 HEO trades should be 1:1.</p> <p>If the TDA is running all three trades, the seat time could be distributed amongst the different pieces of equipment.</p>		
	Excavator	Tractor Loader Backhoe	Dozer
Equipment	<p>Minimum 10-ton excavator, steel tracked</p> <p>1 excavator for every 1 student</p> <p>Float (Haul vehicle) Dump truck</p>	<p>Minimum 70 horsepower Tractor Loader backhoe (e.g. 310 John Deere, 410 CAT, 580 Case)</p> <p>1 TLB for every 1 student</p> <p>Float (Haul vehicle) Dump truck</p>	<p>Minimum 60 horsepower, steel tracked, 6-way blades (e.g. D3 CAT, John Deere 450)</p> <p>1 Dozer for every 1 student</p> <p>Float (Haul vehicle)</p>
Attachments	<p>Minimum: 90 cm (36 inch) wide excavation bucket with teeth</p> <p>Quick attach connect (at least 1 for demonstration purposes)</p>	<p>Minimum: front yard & ¼ bucket, 24 inch (60 cm) rear excavation bucket with teeth</p>	<p>1 out of every 2 dozers should have ripper attachment</p>
Tools	<p>Grease gun</p> <p>Hammer (sledge and regular)</p> <p>Scrapers</p> <p>Track shovels</p> <p>Punches</p> <p>Tape measure</p>	<p>Grease gun</p> <p>Hammer (sledge and regular)</p> <p>Scrapers</p> <p>Punches</p> <p>Tape measure</p> <p>Measuring rod</p>	<p>Grease gun</p> <p>Hammer (sledge and regular)</p> <p>Scrapers</p> <p>Track shovels</p> <p>Punches</p> <p>Tape measure</p>

	Measuring rod		Measuring rod Cross head Eye level
Materials	Wooden pickets Marker paint PVC pipe (for utility exposures) Operator's manual	Wooden pickets Marker paint PVC pipe (for utility exposures) Operator's manual	Wooden pickets Marker paint Operator's manual
Site requirements	Type 3 soil (OHSA) Minimum 1 machine distant apart from each other (approximately 5 meters) Lunch and classroom space	Type 3 soil (OHSA) Minimum 1 machine distant apart from each other (approximately 5 meters) Lunch and classroom space	Type 3 soil (OHSA) Minimum 1 machine distant apart from each other (approximately 5 meters) Lunch and classroom space
Other	Laser system	Laser system	GPS and laser system
Instructor/student ratio	1:6	1:6	1:6

Reportable Subject Mapping 2002 Learning Outcomes (From the Schedules of Training) to New Curriculum Standard

New Reportable Subject#	New Reportable Subject Curriculum Standard	Old Reportable Subject#	Old Reportable Subject 2002 Schedules of Training
3270	Trade Documents	n/a	New (some objectives were previously covered in Introduction and Safety)
3271	Safety and trade practices	1.0	Introduction and Safety
3272	Communications	n/a	New (some objectives were previously covered in Introduction and Safety)
3273	Introduction to the equipment	n/a	New
3274	Troubleshooting and repairs	n/a	New
3282 - TLB	Maintenance and Pre-Operations TLB	2.0 3.0	Pre-Operation Inspection General Preventative Maintenance
3285-Excavator	Maintenance and Pre-Operations Excavator		
3288 - Dozer	Maintenance and Pre-Operations Dozer		
3283 - TLB	Operations - TLB	4.0	Operate TLB Operate Excavator Operate Dozer
3286 -Excavator	Operations - Excavator		
3289 - Dozer	Operations - Dozer		
3275	Post-operations	n/a	New
3284 - TLB	Attachments and Implements - TLB	n/a	New
3287 -Excavator	Attachments and Implements - Excavator		
3290 - Dozer	Attachments and Implements - Dozers		
3276	Environmental protection	n/a	New
3277	Soil fundamentals	n/a	New
3278	Surveys and grades	n/a	New
3279	Hoisting and rigging	n/a	New (some objectives were previously covered in Introduction and Safety)
3280	Industry sectors (specialized work)	n/a	New
3281	Transportation	5.0	Transporting Equipment

Evaluation Structure Breakdown by Reportable Subject

Reportable Subject	Evaluation Structure Breakdown		
	Theory Testing	Application Exercises	Final Assessment
Trade Documents	50%	30%	20%
Safety and Trade Practices	70%	20%	10%
Communications	80%	0%	20%
Introduction to the Equipment	70%	10%	20%
Troubleshooting and Repairs	70%	20%	10%
Maintenance and Pre-Operations – Tractor Loader Backhoe	30%	20%	50%
Maintenance and Pre-Operations – Excavator			
Maintenance and Pre-Operations – Dozer			
Operations – Tractor Loader Backhoe	20%	10%	70%
Operations – Excavator			
Operations – Tractor Loader Backhoe			

Post-Operations	20%	10%	70%
Attachments and Implements – Tractor Loader Backhoe	20%	10%	70%
Attachments and Implements – Excavator			
Attachments and Implements – Dozer			
Environmental Protection	30%	0%	70%
Soil Fundamentals	30%	20%	50%
Surveys and Grades	70%	10%	20%
Hoisting and Rigging	50%	20%	30%
Industry Sectors – Specialized Work	70%	10%	20%
Transportation	70%	10%	20%

Common Vs Non-Common Core Hours

	Hours Total		
Common Core Hours	129 hours		
Non-Common Core Hours	171 hours TLB	171 hours excavator	171 hours dozer

Hours Comparison 2002 Schedules of Training to New Curriculum Standard

New Number	New Reportable Subjects	New Hours Total	2002 Reportable Subjects	Hours
3270	Trade Documents	16		
3271	Safety and trade practices	17	Introduction and Safety	26
3272	Communications	4		
3273	Introduction to the equipment	9		
3274	Troubleshooting and repairs	8		
3282 - TLB	Maintenance and pre-operations	4	Pre-Operation Inspection	26
3285 - Excavator			General Preventative Maintenance	26
3288 - Dozer				
3283 - TLB	Operations	162	Operations	81
3286 - Excavator				
3289 - Dozer				
3275	Post-operations	22		
3284 - TLB	Attachments and implements	5		
3287 - Excavator				
3290 - Dozer				
3276	Environmental protection	4		

3277	Soil fundamentals	8		
3278	Surveys and grades	8		
3279	Hoisting and rigging	16		
3280	Industry sectors (specialized work)	8		
3281	Transportation	9	Transporting Equipment	81
	Total	300	Total	240



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Heavy Equipment Operator (Tractor-Loader-Backhoe)
Heavy Equipment Operator (Excavator)
Heavy Equipment Operator (Dozer)